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ABSTRACT

The main purpose of schools is to prepare the current generation of students to lead successful lives as adults and contribute to a worthwhile society. Thus any school policy or reform will be judged for its long-term consequences on the adult lives of its students and on the society they develop. Although the desegregation of America's public elementary and secondary schools is a policy that is established on the foundation of essential constitutional rights in this country, like any other educational change, it will also be judged by its long-term effects. Direct evidence on how school desegregation may influence students' later life achievements and behavior is difficult to find. This question not only involves all the research problems of studying immediate effects of school desegregation with nonexperimental evidence but also, by definition, requires unusual over-time data to relate students' school experiences to their later life outcomes. To provide an overview of current knowledge, this paper describes the present conditions of desegregation and equity in higher education and employment, and reviews selected studies and theories on how desegregation of elementary and secondary schools may influence progress in these areas. This overview includes tabulations of government agency surveys that give the first descriptions of desegregation in higher education and employment. (Author/GC)

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DESEGREGATION AND EQUITY IN HIGHER EDUCATION AND EMPLOYMENT: IS PROGRESS RELATED TO THE DESEGREGATION OF ELEMENTARY AND SECONDARY SCHOOLS?

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The Johns Hopkins University

Baltimore, Maryland

Introductory Statement

The Center for Social Organization of Schools has two primary objectives: to develop a scientific knowledge of how schools affect their students, and to use this knowledge to develop better school practices and organization.

The Center works through three programs to achieve its objectives. The Policy Studies in School Desegregation program applies the basic theories of social organization of schools to study the internal conditions of desegregated schools, the feasibility of alternative desegregation policies, and the interrelation of school desegregation with other equity issues such as housing and job desegregation. The School Organization program is currently concerned with authority-control structures, task structures, reward systems, and peer group processes in schools. It has produced a large-scale study of the effects of open schools, has developed the Teams-Games-Tournament (TGT) instructional process for teaching various subjects in elementary and secondary schools, and has produced a computerized system for school-wide attendance monitoring. The School Process and Career Development program is studying transitions from high school to postsecondary institutions and the role of schooling in the development of career plans and the actualization of labor market outcomes.

This report, prepared by the Policy Studies in School Desegregation program, examines the effects of attending desegregated schools on students' later life achievements in higher education and employment. The report documents the current extent of desegregation in higher education and employment and reviews the evidence on how elementary-secondary school desegregation may influence progress toward achieving desegregation and equity in higher education and employment.

Abstract

Schools exist with an eye to the future. The main purpose of schools is to prepare the current generation of students to lead successful lives as adults and contribute to a worthwhile society. Thus any school policy or reform will be judged for its long-term consequences on the adult lives of its students and on the society they develop. Although the desegregation of America's public elementary and secondary schools is a policy that is established on the foundation of essential constitutional rights in this country, like any other educational change, it will also be judged by its long-term effects.

Direct evidence on how school desegregation may influence students' later life achievements and behavior is difficult to find. This question not only involves all the research problems of studying immediate effects of school desegregation with nonexperimental evidence[1] but also, by definition, requires unusual over-time data to relate students' school experiences to their later life outcomes. It should not be surprising, therefore, that there are few direct studies of long-term consequences in the otherwise extensive research literature on the effects of school desegregation.

To provide an overview of current knowledge, this paper will describe the present conditions of desegregation and equity in higher education and employment, and review selected studies and theories on how desegregation of elementary and secondary schools may influence progress

in these areas. This overview includes tabulations of governmental agency surveys that give the first descriptions of desegregation in higher education and employment.

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I

HIGHER EDUCATION

There are several reasons why continuation of the progress that blacks have made since the 1960's depends upon how they fare in higher education.

Because of the trend toward universal high school graduation in this country, post-high school credentials are rapidly becoming the most important mark of educational distinction for entering the job market. When employers wish to reduce the number of eligible young candidates for a job on the basis of educational credentials, they will ask for additional schooling beyond the high school diploma. For young blacks to be more equally competitive in obtaining employment, it will be important that present trends continue towards equality in college enrollment and completion rates. To be sure, black students still lag seriously behind whites in staying in and graduating from high school. With about 25 percent of black students dropping out before completing high school, the lack of a high school diploma affects young black students at about twice the rate for whites.[2] However, even holding a high school diploma no longer gives one a very strong advantage in getting a job, because most of the current generation will receive this credential. Moreover, it appears to be even more important for blacks than whites to have additional education beyond high school when seeking employment. Recent evidence suggests that the differences in occupational opportunities between blacks and whites are significantly more negative for high school graduates than for college-trained individuals.[3] This means that for blacks to continue progressing up the socio-economic ladder, they will need to be successful in achieving post-high school education.

Success in post-secondary education will also be more valuable to blacks because the efficacy of additional years of schooling for occupational success appears to be operating more equitably for blacks and whites in recent years, especially in the North. Research on social mobility in the 1960's indicated that education played a less viable role for blacks than whites. The variables which had accounted for occupational success in white populations appeared to be less dependable for blacks in several ways: (a) the social mobility models explained less variation in occupational careers of blacks than whites, (b) education failed to correlate as strongly with job success for blacks as whites, and (c) advantages did not accumulate over generations the same way for blacks as whites, that is, blacks from middle class homes more frequently fell back in socio-economic accomplishments than did whites with these family advantages. These differences between the social mobility processes of blacks and whites appear to be much less striking in recent years. At least for younger adults in the North, additional years of schooling contribute to occupational mobility for both blacks and whites to a similar degree, so the major explanation for differences between the races in income and occupational status is the differences in education and family advantages, not the processes which translate these factors into social mobility.[4] To take advantage of these recently more available avenues of social mobility, blacks and other minorities will need to successfully invest in schooling beyond the secondary level.

Given that post-high school education is critical for continued minority progress, how do blacks and whites currently differ in attainments and desegregation in higher education, and what evidence exists that elementary-secondary school desegregation is related to these differences?

A. Attainments in Higher Education

Nationally representative data on black-white differences in higher education have until recently been available only for a limited number of attainment characteristics. It has been possible to measure the initial enrollments of students as first-year college students, but difficult to determine differences in their continuation or completion rates, in the type and quality of their programs, in their patterns and sequences as part-time vs. full-time students or in continuous vs. interrupted schooling, and in their access to institutions within close commuting distance or with available financial assistance. Recent evidence with incomplete data suggests that the picture looks much less equitable when you go beyond simple measures of initial enrollments.

A hopeful sign of movement toward equal achievements in higher education is found in a number of recent studies indicating that blacks approach post-secondary schooling with strong ambition--black high school graduates' aspirations for higher education and their initial enrollment in postsecondary schools is much higher than whites of similar social class or test score levels and nearly comparable to whites regardless of background levels.[5] But studies suggest that initial black-white college enrollment ratios decrease in subsequent years. The data are not yet available for direct investigation of comparative continuation and completion rates in college for representative samples of blacks and whites,[6] but there is some indication that the enrollment gaps increase over the college years. For example, the 1976 report from the National Center for Education Statistics estimates that 40.9 percent of the black freshman class of 1971 were enrolled as seniors in 1974 compared to 57.2 percent of the white freshman class,[7] analyses of the U.S. Office

of Education's Survey of the High School Class of 1972 shows that after two years 47.7 percent of black two-year college entrants had withdrawn from higher education compared to 38.3 percent of whites, and 27.3 percent of blacks had withdrawn from four-year institutions compared to 23.3 percent of whites.[8] In addition, there are signs that blacks have different experiences of part-time or interrupted schooling in attaining their college credentials. Blacks who complete postsecondary training on the average take more years to do so, and are older when they receive their advanced degrees.[9] One study of the alternate routes taken to achieve an educational diploma or degree shows that "fewer blacks than whites resume their education once it is interrupted and of those who do resume, fewer blacks than whites convert this resumption into degree attainment." This study also shows that blacks and whites differed in their combinations of full-time and part-time schooling to reach an educational destination, with blacks less likely to engage in part-time upgrading of their education.[10]

There are also indications of major differences in the type and quality of the higher education institutions attended by minority and white students. Tabulations of the 1976 Department of Health, Education and Welfare survey of racial and ethnic enrollments in higher education shows that 44.8 percent of black first-year full-time undergraduates enroll in two-year institutions rather than four-year institutions, compared to 37.1 percent of whites.[11] Studies of the American Council on Education's survey of students entering college as first-time, full-time freshman indicates that minority students are overrepresented in the two-year and nonselective four-year colleges and underrepresented in the universities. These studies show that the educational expendi-

tures by the colleges or universities are more than five times as much per student in the types of schools with an overrepresentation of minorities compared to those with an underrepresentation. Although tuition is lower in the less selective schools, so is the amount of available financial aid, so that the net cost (tuition minus aid) to many students is often not very different in schools of high or low selectivity.[12] Finally, blacks and whites enroll in different proportions in various majors and fields of study. Blacks are more likely to major in education and social service fields, and this tendency increases between the baccalaureate and doctoral levels.[13] The continued concentration of minorities in particular fields has implications for occupational and income mobility. Research will be discussed in a later section showing that the occupational payoff from additional years of schooling is lower for certain types of work, with social service occupations having particularly low income returns from increased schooling.

Better data and further study are needed to develop an adequate assessment of changes in black-white experiences in higher education. A reliance on simple initial enrollment statistics can give a very misleading idea of equality in college attainments.

B. Desegregation in Higher Education

Until recently, most attention to the desegregation of education in America has focused on elementary and secondary schools. The structure of higher education in this country is different in so many ways that it has been difficult to apply the same elementary-secondary school policies and thinking about desegregation to colleges and universities.[14] Higher education involves a strong mix of public and private institutions, a great variety of state approaches with different types of

schools and admissions policies, a collection of commuter and residential schools that may draw from local or national student populations, and a group of traditionally black institutions that have a proud history of educating a large proportion of the black professionals and leaders in this country. To help in assessing the current conditions and trends in desegregation of higher education, we need better information on the enrollment patterns in all these institutions.

The federal government has surveyed the racial and ethnic enrollments of all institutions of higher education every two years since 1968, but these data have not previously been used to describe the extent of segregation in American colleges and universities. Analyses are reported here on the data collected in 1972, 1974 and 1976 to examine trends and contrasts in the segregation of higher education for these years. A segregation index is calculated for enrollments in different regions and types of institutions. Index values are accompanied by tabulations of the distribution of students among schools with different racial compositions.

The rationale and calculation of the segregation index can be described with reference to data for 1976 in Table 1.

One component of the segregation index is the "percent white in the school attended by the average minority student." To calculate this component, each minority student is assigned the value of the racial composition (percent white) of his or her school, and these values are averaged for all minority students in a particular region and type of school. For example, in the first column of Table 1, we find that the average minority undergraduate student in the nation attends a school that is 57.6 percent white. In other words, of every 100 students

randomly encountered by the average minority undergraduate student, about 57 of them will be white.

The second component of the segregation index is the expected racial composition of the average school if the available minority and white students were randomly distributed among the schools in a particular region. This component is equal to the simple percentage of all students in the region who are white. In the second column of Table 1, we see that 84.0 percent of the undergraduate students in the nation are white. Thus, if all students are randomly distributed across the undergraduate schools of this country, we would expect the average minority student to attend a school where the racial composition equalled 84 percent white.

The segregation index uses these two components to measure how far the actual value of "percent white in the school attended by average minority student" departs from the expected value if students were randomly distributed among the schools of the region.[15] The index will have the value 100 whenever white and minority students attend entirely separate schools; it will have the value zero whenever the actual racial composition of the schools is the same as a random allocation of the students in the region. Index values between 0 and 100 measure the degree of segregation for the particular region and type of school under consideration. The larger the value of the index, the more segregated or "racially isolated" is the school population of white and minority students. The index can be used to make comparisons of the degree of segregation between different groups of schools or at different points in time.

The components of the segregation index can also be taken from the perspective of the average white student. For example in column 3 of

Table 1, we see that the average white undergraduate student in the nation attends a school with 10.9 percent minority enrollment, and from column 4 we see that minority students comprise 15.9 percent of the nations' undergraduate population, the expected percent minority for the average white if all students had been randomly distributed among the schools.

The segregation index can be used to make comparisons between different groups of schools or comparisons at different points in time. Table 1 shows that for all undergraduates, the South is the most segregated region, with a segregation index of 42.5 compared to values of 25.0, 23.7, and 20.3 for other regions. But it is among the four-year undergraduate institutions where Southern segregation is greatest. Among two-year institutions, the Northeast and Midwest regions have the most segregation of full-time students. Yet, the segregation of four-year institutions in the South involves more minority students than any other category of schools: in 1976, more than half of the blacks enrolled as full-time undergraduates attended school in the South, and more than one-third attended the four-year institutions of the South. Segregation is lower at the graduate-professional level than at the undergraduate level, but again the South is most segregated.

Table 2 presents distributional statistics that indicate the range of experiences that are summarized in the segregation indices. The first row of Table 2 shows that 16.8 percent of minority undergraduate students attend schools with less than 10 percent white enrollment, 26.8 percent of minorities attend schools where less than one-quarter of the students are white, and 35.4 percent of minorities attend schools where less than half of the enrollment is white. The first row of Table 2 also shows the national distribution of white undergraduate students

by school racial composition. In the case of whites, only 1.5 percent attend where minority students comprise more than half of the school's enrollment, whereas 90.9 percent of whites are in schools where minority students are less than one-quarter of the school's student population.

There are only minor deviations in this particular pattern for whites by region or institutional level. But the differences are more striking in regional comparisons for minority students. While only about half of all minority undergraduates in the South (51.3 percent) attend schools which are majority white, more than 70 percent of the minority students attend such schools in the other regions. The previously noted regional differences by institutional level are also evident for minority students: 42.7 percent attend majority white four-year institutions in the South compared to more than 80 percent in other regions, while the percent attending majority white two-year institutions is smallest in the Northeast and Midwest regions.

Table 3 presents the trends in higher education segregation indices for the years 1972, 1974 and 1976, and distinguishes between public and private institutions as well as between regions and institutional levels. Although the South remains the most highly segregated region for four-year undergraduates and graduate-professional students, it is the only regior that has shown progress in reducing segregation since 1972. Among the public four-year institutions in the South, the segregation indices decrease from 56.6 to 52.3 to 45.6 from 1972 through 1976, and among the public graduate-professional institutions the indices decrease from 26.5 to 21.7 to 19.1 in this region.

There is less segregation nationwide at the higher education level than among public elementary-secondary schools. But, as will be discussed in a later section, there is more racial segregation among colleges

and university students than among American workers at their places of employment. With regard to contrasts between levels of education, it is possible to make approximate comparisons with the data presented here for higher education and the published tabulations for elementary-secondary schools for 1972.[16] The segregation index in this year for all undergraduates in the nation's colleges and universities is 31.7 compared to 55.8 for elementary-secondary schools. In terms of the distribution of minority students in 1972, 32.5 percent of undergraduates attended schools where less than half of the enrollment was white, compared to 60.4 percent of minority students at the elementary-secondary level in schools with less than half white enrollment. The differences between school levels in segregation are smallest in the South, where 56.6 percent of minorities in higher education compared to 57.7 percent of minorities at the elementary-secondary level attended schools with less than half white student bodies. In the other regions of the Country, there is a much greater contrast in segregation between higher education (15.4 percent of minorities in mostly minority schools) and elementary-secondary education (62.6 percent of minorities in mostly minority schools).

More research needs to be done with the higher education enrollment data to make the information more useful to the discussions of researchers, educators and policy makers. State-by-state indices are needed to provide more realistic drawing populations of students than the regional analyses presented here. Segregation of program enrollments within colleges and universities can also be examined with available data. And investigations that identify the historically black institutions are necessary for following trends resulting from some specific desegregation policy alternatives in higher education.[17]

Reviews of descriptive evidence on black-white differences in higher educational attainments and desegregation can suggest some new research questions about the effects of desegregation in elementary and secondary schools. Does desegregation in the earlier grades tend to foster successful desegregation at later levels? Are minority students from desegregated elementary schools more likely to enroll in desegregated postsecondary institutions, and are they more likely to continue and complete their education in desegregated colleges or universities if they have previously attended desegregated schools? Are the college enrollment choices of white students affected by their experiences in segregated or desegregated elementary and secondary schools? Although there is presently no evidence on the perpetuation of segregation across educational levels, there are some studies of effects of desegregation on other postsecondary outcomes. These will be briefly reviewed in the next section.

C. Elementary-Secondary School Desegregation and Higher Education Outcomes

A limited number of studies have examined whether desegregation before high school is related to continued education of black students and to the types of colleges and programs in which they enroll. These studies include a retrospective survey of black adults, some small followup studies of unusual secondary school desegregation experiments, and some recent longitudinal surveys of national samples of young blacks and white adults.

In 1966, the U.S. Commission on Civil Rights sponsored a wide ranging interview survey of 1624 black adults, in which the respondents recalled whether they attended segregated or desegregated elementary and secondary schools (about 650 had attended desegregated schools), and also reported on their subsequent educational attainments. Although the his-

torical period of the school experiences in this study extended from the 1930's to the early 1960's -- the adult survey population was ages 17 to 45 in 1966 living in metropolitan areas of the North and West -- these data represent a unique coverage of desegregated schooling and later life outcomes for a minority population.

Using these data, Crain[18] reports that blacks who attended desegregated schools are more likely to have finished elementary and high school and to attend and finish college. Thirty-two percent of Northern-born men from desegregated schools went to college compared to 24 percent of Northern-born men from segregated schools, while the differences for women are small but in the same direction. The sample size of college graduates was very small but also tended to favor blacks from desegregated schools. These analyses controlled on whether birthplace was North or South, at what age the respondent moved North, and parental background measures.

Two studies on small samples of black students who participated in unusual desegregation programs relate college attendance to desegregation before high school. In an otherwise negative assessment of the effects of desegregation experiments, Armor reviews evaluation studies of the two situations where effects on college attendance were measured and some positive outcomes were noted.[19] Both situations involved small numbers of students and unusual desegregation programs. The METCO program is a voluntary busing program across district lines in metropolitan Boston, for which college data were obtained in 1972 for 32 bused and 16 control group students (who were siblings of the desegregated students) which represented about two-thirds of the original comparison groups of high school seniors in 1970. Armor reports that the METCO bused students were much more likely to start college than the control group, but also had a much higher drop-out rate from college. By the end of the sophomore year,

Armor reports there were no large differences in college attendance favoring the METCO bused students, although the METCO students who remained in college were enrolled in higher-quality institutions (four-year colleges and universities) than the control group. Pettigrew and others argue that the positive evidence for the METCO program is stronger than Armor suggests:[20] the dropout rate of METCO students from four-year colleges and universities was no worse than for white students nationally, and large differences continued to favor METCO students enrolled in such institutions (56 compared to 38 percent remained in four-year colleges, and 43 compared to 12 percent remained in universities). A second study reviewed by Armor that suggests some positive effects on post-high school education is the ABC ("A Better Chance") program. This follow-up study in 1971 of the first year of college involved about 40 high-ability black students who had participated in the highly selective ABC program of scholarships to predominantly white high prestige private secondary schools and residential public schools. These 40 were matched with a control group of black students of similar background and achievement levels who had applied to the ABC program but who could not be placed due to a cutback in Federal funding. All the ABC students entered colleges, as compared to about half of the control group, and the ABC students enrolled in considerably higher quality colleges than the control group. Follow up data on differential dropout rates were not available for study.[21]

Three different longitudinal surveys that followed up students after high school have been studied to address questions of desegregation effects on black students' college success. Two of these studies, on the Project TALENT survey and on the Youth in Transition survey, involved very small and unrepresentative samples of black students, so that the

results do not have much force. However, a continuing longitudinal survey of the High School Graduating Class of 1972 includes a large representative sample of black students and promises to be an important source of research data.

In the Project TALENT study, which used 1965 five-year follow-up data from an original 1960 student sample, students were not asked their race in the initial survey. Because the overall response rate was very low (39 percent) to the follow-up that asked for racial identification, there is no way to know either the response rate for blacks or the extent of the bias. From an original sample of over 90,000, only 224 blacks were included in the desegregation study, of whom only 74 had attended desegregated schools. For what it is worth, this study did not find any positive or negative school desegregation influences on post-high school education.[22] In the Youth in Transition study, comparisons have been made one year after high school between black subsamples of 73 students in desegregated schools, 72 in segregated Northern schools, and 111 in segregated Southern schools. An overall 1970 follow-up rate of 80% from a nationally representative sample of 2213 black and white high school students provided these comparison groups. Results suggest that the social mobility process of desegregated blacks more closely approximates the processes for whites, in contrast to the usual finding of large black-white differences in the importance of academic performance and socioeconomic background for advanced education attainments.[23]

Crain and Mahard[24] have recently reported findings from their analysis of the National Longitudinal Study of the High School Graduating Class of 1972. A large sample of high school seniors were surveyed as high

school seniors in 1972 and again in 1974 and 1975. The sample included nearly 3000 black respondents of whom about 1000 attended Northern high schools and 2000 attended Southern high schools. The black sample includes 127 cases from low segregation Northern school districts, 258 from medium segregation Northern districts, 393 from low segregation Southern districts and 608 from medium segregation Southern districts. Not only do the case sizes appear to be better than many other longitudinal data sets, but the follow-up response rates for this overall survey have been unusually good: 93 percent for the first follow-up in 1973, and 94 percent for the second follow-up in 1974. A third follow-up conducted in late 1976 is being prepared for analysis.

In their working paper, Crain and Mahard examined three outcomes: initial enrollment at college, type of college, and uninterrupted continuation to the junior year of college. The report found opposite effects of high school desegregation on these outcomes for blacks in the North and South. The effects on black college enrollment and continuation were positive in the North, but negative in the South. When data were analyzed at the individual student level with statistical controls on socio-economic background, the only statistically significant relationship with percent white of high school was the positive effect in the North on continuation to junior year of college. When data were analyzed at the level of school averages and proportions, with mean black socioeconomic status and school district size controlled, all relationships with percent white students were statistically significant: in the North, positive effects on black students' college enrollment and continuation to college junior class; in the South, negative effects on black students' college enrollment and continuation.

In companion analyses for white students' outcomes, the results were not the same as for blacks. Whereas predominantly white high schools were related to higher black student college outcomes in the North, predominantly white high schools produced lower white student college outcomes in this region. For whites in the South, increased percent white in their high schools was not related to different college outcomes, while it was negative for blacks in the region.

Crain and Mahard have provided some detailed analyses to account for the observed patterns. The authors provide several indirect checks to discount the possibility that the results are due either to some unmeasured "quality of education" school variable, or to self-selection tendencies of desegregated students that were not picked up by the controls on socioeconomic status. They divided the sample into three sets of school districts that are likely to differ in the availability of desegregated schools for student choice, and conclude that unmeasured self-selection factors may exist, but not enough to eliminate the apparent positive effect on black college continuation rates in the North or to indicate any college benefits for blacks in the South.

The authors then examine some intervening variables to suggest the causal mechanisms linking school racial composition to black college outcomes. They identify two important factors that may mitigate against any positive effects in the South and weaken these effects in the North: the lower relative grades that blacks earn in white high schools (despite their higher absolute achievement on standardized tests compared to segregated blacks), and the higher proportion of white teachers in desegregated schools who may be less likely to encourage blacks to attend college or to attend colleges where they are likely to persist beyond two years. When the negative effects of grading practices and faculty racial composition are taken into account, the remain-

ing direct effect of desegregated schools is no longer negative in the South and is more strongly positive in the North.

The authors argue that predominantly white high schools in the North are more likely to direct their black graduates to four-year colleges that offer scholarships and have more able student bodies, while black students in the South from desegregated schools are more cut off from the black institutions of higher learning and from scholarship opportunities at white colleges. However, these relationships are not reported with careful controls on student background or other intervening variables. The authors also show that the availability of black guidance counselors in Southern high schools may affect black student college outcomes.

These studies of the National Longitudinal data are important initial efforts to use this unique data source to better understand the post-high school educational effects of school desegregation. Because of the importance of the initial findings, continued research can be expected to look in greater detail at the reported complexities and inconsistencies by race and region. And subsequent waves of this Survey that follow students further through college or into occupations should provide unusual and important sources of information.

II

OCCUPATIONAL OPPORTUNITIES

Developments that increase equity and desegregation of the American occupational structure can lay the foundation for progress in other institutional settings. Minority families who can achieve employment stability and middle-class incomes will be better able to offer their children the socio-economic advantages at home that have proved to be strong correlates of student achievements in school. Closing the employment and income gap between black and white families may also reduce white parents' opposition to school desegregation, because research suggests that major sources of white resistance derive from socio-economic aspects of proposed school changes.[25] An improved parental climate for school desegregation may also be fostered by further desegregation in the work places of this country, where adults may develop the cross-racial experiences and attitudes helpful for progress in residential and school desegregation.

This section will outline evidence on desegregation in occupational opportunities in the same way as the previous section on higher education. Descriptions of current black-white differences in occupational attainments will be reviewed, preliminary tabulations on the extent of desegregation in places of employment will be presented, and the limited evidence on the effects of elementary-secondary school desegregation for occupational opportunities will be cited.

A. Occupational Attainments

Although large racial differences remain in employment, family income, personal earnings and occupational level, there were significant improvements during the prosperous 1960's in black-white gaps that have not been negated by the general problems in the economy of the 1970's.[26] Since 1960, non-whites have shifted into higher status, non-manual, supervisory, and craft jobs at a faster rate than whites, although a very large occupational gap remains. Even after recent gains, the occupational prestige level for the average non-white worker in 1975 remained lower than what the average white worker had achieved in 1940. The relative improvement in occupational prestige has been greater for non-white females than non-white males. The trends in family income also showed a more rapid rate of improvement during the 1960's for blacks than for whites, although the black median family income remained 61 percent of the white median in 1970. This improvement in relative standing has not continued in the first half of the 1970's, although the earlier gains have been maintained. Unemployment remains an overriding problem of non-white Americans, and is one economic indicator on which much of the improvement during the 1960's in black-white ratios has been lost during the 1970's, especially for men in the labor force.

Although there has been much research on racial differences in occupational level (prestige and income), black-white differences in occupational type have been examined only recently. Classifications of occupational types have been developed that group jobs according to the kinds of activities involved and the kinds of competencies that are required and rewarded. For example, some occupations emphasize work

with data, others with people, and others with physical objects. Studies have shown that separate labor markets operate for broad groups of occupational types: most workers' careers involve job changes among similar or closely related occupational types, and the payoffs in income and job prestige for additional years of education vary significantly for different occupational types.[27]

Black workers are much more concentrated than whites in "social" occupations, such as education and social service jobs: for the most highly educated workers in 1970, 47 percent of black men are in "social" occupations compared to 19 percent of white men of similar age and education. And black workers are greatly underrepresented in "enterprising" occupations such as business management or sales, and in "investigative" occupations such as scientific work: among highly educated workers in 1970, 12 percent of black men compared to 39 percent of white men are in "enterprising" occupations, and 12 percent of black men compared to 21 percent of white men are in "investigative" work.[28] These three broad types of occupations, which show the largest differences in racial distributions, also appear to involve different market processes of occupational attainment. Studies of the returns received from additional years of schooling show that "social" occupations yield relatively large payoffs in occupational prestige but small returns in added income; "enterprising" jobs provide much higher income payoffs but lower prestige returns, and "investigative" work offers high returns in both income and prestige. An additional year of education is associated with an additional income of $200 to $300 per year in social occupations, $400 to $600 in investigative work, and about $1000 in enterprising work; and the ratio of

increases in mean income to prestige from one additional education level is approximately $150, $500, and $1200, respectively, for social, investigative and enterprising occupations. Thus, black men are greatly overrepresented in occupational types with the smallest income returns to education, and they are greatly underrepresented in occupational types with the largest income returns.[29]

Research is needed on the sources of the black-white differences in type of occupational choice and on the possible effects of desegregation on occupational choices. For example, studies may indicate whether there are effects on black occupational choices due to differences of desegregated elementary-secondary schools in peer group occupational aspirations or in available networks of information that connect students to "nontraditional" major fields in college or to "nontraditional" occupational opportunities.

B. Desegregation of Places of Work

Data on the number of workers from different racial and ethnic groups is collected annually by the federal Equal Employment Opportunities Commission (EEOC) for approximately 150,000 different places of private employment in this country that have 100 or more employees. As had been the case with the racial and ethnic counts of students in higher education, the data for American places of work had not been tabulated to determine the extent of segregation. Preliminary analyses using the 1975 employment data are presented here to provide segregation indices and distributions by racial composition for places of work that parallel the previous tabulations for higher education.[30]

Table 4 gives the estimated indices of segregation in American

places of work, for all jobs and for nine different occupational levels, based upon a 1 in 20 sample of the 1975 EEOC survey (N=7483). Table 4 uses the same segregation index for places of work that was described earlier for the analyses of higher education, and presents the separate components used in calculating the segregation indices. These components include the actual percent white in the same place of work and job category for the average black worker, and the percent white nationwide in the job category to represent the expected value for the average black worker that would result from a random distribution of workers. Segregation index components are also shown in Table 4 from the perspective of the average white worker. Table 5 gives the distribution of workers in places of work of different racial compositions, to provide an additional picture of the extent of segregation.

The values in Tables 4 and 5 show less segregation in employment than was found in education, but some job categories are more highly segregated than others. The nationwide segregation index for all jobs is 19.0, compared to the nationwide segregation indices reported earlier for higher education of 31.7 and for elementary-secondary schools of 55.8. The comparisons of distributions by racial composition show a similar ordering: 13.9 percent of black workers are in places of work with more than half black employment, compared to 35.4 percent of minority undergraduate students and 60.4 percent of minority elementary-secondary students in schools with more than half minority enrollment. But when different job categories are compared, we see that segregation in employment is greatest for particular occupational levels.

Segregation indices measure the extent to which the actual distribution

of blacks and whites among places of work departs from the random distribution of available blacks and whites in each job category, and by this criteria laborers and service workers are the most segregated. Table 4 reports segregation indices for these job categories that are about twice as large as the index for all jobs in the nation. And Table 5 shows that about half of the black workers in laborer and service worker categories are in places of work with more than half black employment, compared to most other job categories where less than 15 percent of black workers are in places of work where minority workers make up more than half of their work force.

Although the available blacks in the highest job categories of managerial, professional, technical and sales workers are more evenly distributed among the nation's places of work, there is also a much lower proportion of blacks at these levels nationwide. Table 4 shows that the segregation indices for the top four job categories range from 14 to 21, but at the same time only about 3 percent of managers and professionals are black and about 6 percent of professional and technical workers are black. This means that while blacks at the top levels are least likely to be concentrated in mostly black places of work, there are many more firms that have few or no blacks at these job categories compared to other job levels. Table 5 shows that among whites, more than two-thirds of the workers in each of the top four job categories are in work forces where less than 10 percent of their fellow workers are black. Indeed, it can be shown that about half of white managers are in places of work with no black co-workers at all, and about one-third to two-fifths of the whites at other top levels are in exclusively

white work forces. In other job categories, only about one-quarter of whites find no blacks in the same job level at their place of work.[31]

Thus, these preliminary analyses suggest that to reduce segregation in employment so that more white and black job holders work in racially mixed work forces will involve both an increase in the number of available black workers in the highest job categories, and a more even distribution among firms of present black workers in the lower job categories. Further research is needed to examine differences in employment segregation within specific state, metropolitan and industrial labor markets, to learn whether segregation in employment affects male and female workers in the same way, and to examine how employment segregation may be related to specific policies of firms and to the segregation of schools and residences in a community.[32]

C. Elementary-Secondary School Desegregation and Occupational Outcomes

The only data that have been analyzed to address questions of the occupational outcomes of school desegregation are the data collected in the 1966 retrospective survey of black and white adults sponsored by the U.S Commission on Civil Rights. Although these data comprise small samples from an earlier historical period of school desegregation, they currently provide the only direct evidence on these questions. Research has been reported on two classes of outcomes: income and occupational attainments of blacks, and attitudes toward race and related behaviors of blacks and whites that appear to have relevance for occupational outcomes.

Crain focuses on approximately 300 cases from the original sample of 1624 black adult men aged 21 to 45 in 1966, who had attended northern high schools and reported an occupation in the survey.[33] He presents

data to show that blacks from desegregated schools are more likely to hold "nontraditional" occupations in sales, crafts, and the professions (33 percent compared to 21 percent from segregated schools) and to have higher average occupational prestige and income (35.7 in prestige compared to 34.0 from segregated schools, and $5454 compared to $5110 from segregated schools.) After controls are placed on age, educational attainment and stability of family or origin, the estimated income difference equals about a $100 annual advantage for desegregated blacks.

Other analyses drawn from these data have examined some attitudinal variables thought to be associated with black occupational success, and have explored how segregation of blacks and whites may be perpetuated from school experiences into adult life. Tabulations are reported to show that both blacks and whites from desegregated schools are more likely to function in desegregated environments as adults. For both races, adults from desegregated schools were more frequently found to live in desegregated neighborhoods, to have children in desegregated schools, and to have close friends of the other race.[34] Analyses are also reported to argue that blacks from desegregated situations have a stronger sense of opportunity, more confidence in their ability to succeed in interracial situations, and more access to informal sources of information about employment opportunities, all of which may be important for adult occupational success.[35]

To gain better understanding of the perpetuation of segregation from education to adult life and of the occupational effects of school desegregation, research is obviously needed on larger and more contemporary samples. Relevant studies can be conducted with existing

longitudinal data sources, such as the National Longitudinal Study of the Class of 1972, but new data collection will probably be needed to directly examine most questions.

CONCLUSION

There is always the danger of drawing misleading implications from any evaluation research--different results may come later from stronger data and designs, significant side-effects or unanticipated consequences may exist on unmeasured outcomes, and data are rarely available for more than a limited range of the practical alternatives. Clearly, the danger is magnified for the topics addressed in this review, where information is weak for describing many important aspects of black-white differences of attainments and desegregation in higher education and employment, where relevant data are poor for linking elementary-secondary school desegregation to adult outcomes, and where clear ideas are scarce for understanding the processes which relate improvements in equity or desegregation across institutions and across generations.

This overview has indicated the dangers of assessments of black-white differences based on limited data. It was suggested that initial enrollment rates in higher education may give a superficial impression of equity of attainments that overlook important black-white differences in continuation or completion rates and in the type or quality of the college attended. Similarly, it was argued that income and prestige differences in the occupational structure may be better understood by examining the distribution of black and white workers among different types of work and labor markets. The usefulness of further descriptive research on the extent of segregation in higher

education and employment was also pointed out, by presenting preliminary tabulations for broad regional and national categories and discussing how state and community conditions still need to be taken into account. Research progress can be expected using available data, on many of these important aspects of descriptive information.

The existing data bases do not appear nearly so promising for finding better evidence about the effects of elementary-secondary school desegregation on post-high school education and occupations. With few exceptions, current evidence is based on data that are either very small, unrepresentative or out-of-date. As a consequence, little can be said now with much confidence on most of these questions. Although further research on data from the National Longitudinal Survey of the High School Class of 1972 should provide a valuable source on relevant questions, especially as data become available on the college completion years, it will probably take major new data collection activities to make real progress in studying the effects of school desegregation on continued education and employment opportunities.

TABLE 1

1976 SEGREGATION INDICES FOR FULL-TIME ENROLLMENT IN HIGHER EDUCATION, BY LEVEL AND REGION

Level and Region [1]	Percent White in the school attended by the average Minority Student	Percent White students in the region	Percent Minority in the School attended by the average White Student	Percent Minority Students in the Region	Segregation Index
All Undergraduates					
Nation	57.6	84.0	10.9	15.9	31.4
NE	66.1	87.9	9.1	12.0	25.0
MW	68.2	89.8	7.7	10.1	23.7
S	45.4	78.5	12.4	21.4	42.5
W	64.2	80.2	15.8	19.7	20.3
Undergraduates in Two-Year Institutions					
Nation	54.6	77.9	15.4	22.0	30.0
NE	49.2	82.7	10.3	17.2	40.1
MW	47.1	83.9	9.0	16.0	43.7
S	56.9	73.5	20.5	26.4	22.7
W	58.0	74.6	19.7	25.3	22.1
Undergraduates in Four-Year Institutions					
Nation	59.4	86.2	9.4	13.7	31.3
NE	74.4	89.5	8.7	10.4	16.3
MW	79.2	91.4	7.4	8.5	12.9
S	40.2	80.3	9.8	19.6	50.0
W	70.3	83.8	13.5	16.1	16.1
Graduate-Professional					
Nation	80.2	90.8	8.0	9.1	12.0
NE	89.0	92.4	7.3	7.5	4.0
MW	86.1	92.6	6.8	7.3	8.2
S	68.6	89.6	8.0	10.3	23.3
W	82.3	88.1	11.1	11.8	6.7

[1] Northeast (NE) = CT, DE, ME, MA, NH, NJ, NY, PA, RI, VT.
Midwest (MW) = IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI.
South (S) = AL, AR, DC, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV.
West (W) = AK, AZ, CA, CO, HI, ID, MT, NV, NM, OR, UT, WA, WY.

Source: 1976 National Center for Education Statistics Survey of Racial and Ethnic Enrollments in Institutions of Higher Education.

TABLE 2

1976 Percentage Distribution of Full-time Minority Students and White Students in Higher Education Schools with Different Racial-Ethnic Compositions

Level and Region	Percent of Minority Students Attending Schools Where Enrollment Composition is:				Percent of White Students Attending Schools Where Enrollment Composition is:			
	0-9% White	0-24% White	0-49% White	50-99% White	0-9% Minority	0-24% Minority	0-49% Minority	50-99% Minority
All Undergraduates								
Nation	16.8	26.2	35.4	64.6	63.3	90.9	98.5	1.5
NE	3.5	13.8	28.0	72.0	70.2	94.2	98.6	1.4
MW	10.9	18.4	25.1	74.9	78.8	95.6	99.4	0.6
S	33.7	43.2	48.7	51.3	55.9	90.4	98.2	1.8
W	1.9	12.6	26.0	74.0	42.9	80.5	97.3	2.7
Undergraduates in Two-year Institutions								
Nation	9.0	21.3	38.1	61.9	48.7	80.4	96.6	3.4
NE	4.6	32.4	52.8	47.2	74.4	89.7	96.9	3.1
MW	23.9	38.0	52.3	47.7	71.7	93.2	98.2	1.8
S	9.7	16.6	29.8	70.2	25.8	72.4	96.2	3.8
W	3.7	13.2	33.1	66.9	31.6	70.5	95.4	4.6
Undergraduates in Four-year Institutions								
Nation	21.0	29.1	33.8	66.2	68.2	94.4	99.1	0.9
NE	2.9	4.4	15.4	84.6	69.0	95.5	99.1	0.9
MW	4.1	8.1	10.8	89.2	80.6	92.3	99.7	0.3
S	44.7	55.5	57.3	42.7	65.3	96.0	98.8	1.2
W	0.1	12.0	18.9	81.1	49.4	86.2	98.4	1.6
Graduate-Professional								
Nation	2.8	6.3	10.8	89.2	74.8	97.8	99.6	0.4
NE	0.0	0.0	0.1	99.9	74.3	99.6	100.0	0.0
MW	3.0	3.0	4.6	95.4	82.6	98.8	99.9	0.1
S	6.6	17.8	30.4	69.6	86.0	95.9	98.8	1.2
W	0.0	0.1	0.4	99.6	47.6	96.9	100.0	0.0

Source: 1976 National Center for Education Statistics Survey of Racial and Ethnic Enrollments in Institutions of Higher Education.

TABLE 3

COMPARISON OF 1972, 1974 AND 1976 SEGREGATION INDICES FOR FULL-TIME ENROLLMENT IN HIGHER EDUCATION, BY LEVEL, REGION AND CONTROL

Level and Region	Public			Private			All		
	1972	1974	1976	1972	1974	1976	1972	1974	1976
All Undergraduates									
Nation	30.4	29.5	30.5	35.5	34.0	34.5	31.7	31.1	31.4
NE	20.3	18.1	31.4	4.6	23.5	9.1	16.3	21.9	25.0
MW	24.6	22.6	24.7	14.4	20.2	23.0	22.7	22.0	23.7
S	47.5	42.5	37.3	66.8	60.9	60.3	51.4	47.0	42.5
W	11.8	17.2	9.1	10.8	13.1	12.3	12.2	16.5	20.3
Undergraduates in Two-year Institutions									
Nation	25.7	25.4	29.4	38.0	41.0	42.1	26.6	27.5	30.0
NE	29.7	26.7	42.2	14.4	35.1	27.1	29.1	35.2	40.1
MW	45.5	40.9	43.8	15.4	21.6	46.5	43.6	39.8	43.7
S	20.9	19.2	20.9	53.6	60.0	49.6	24.4	22.2	22.7
W	15.7	21.5	21.9	67.2	48.1	54.1	16.1	22.0	22.1
Undergradutes in Four-year Institutions									
Nation	32.4	32.1	30.4	35.2	32.5	33.8	33.0	31.9	31.3
NE	14.0	12.1	23.0	4.7	15.3	7.3	9.8	14.4	16.3
MW	10.0	12.5	11.1	13.7	19.7	18.7	10.7	14.2	12.9
S	56.6	52.3	45.6	68.4	61.1	61.4	59.7	54.6	50.0
W	8.0	9.3	16.8	7.4	10.1	10.7	7.4	9.5	16.1
Graduate-Professional									
Nation	11.6	9.5	10.1	16.8	18.0	13.8	13.7	13.6	12.0
NE	5.3	3.7	3.7	2.8	5.2	2.7	3.8	3.8	4.0
MW	1.6	4.3	2.9	4.3	8.0	13.4	3.2	4.2	8.2
S	26.5	21.7	19.1	42.7	46.2	29.1	31.7	30.8	23.3
W	2.7	4.0	7.2	6.1	5.5	3.8	3.6	3.9	6.7

Source: 1972 and 1974 Department of Health Education and Welfare Office of Civil Rights and 1976 National Center for Education Statistics Surveys of Racial and Ethnic Enrollments in Institutions of Higher Education.

Table 4

1976 NATIONWIDE SEGREGATION INDICES FOR PLACES OF WORK, BY JOB CATEGORY

Job Category	Percent white in the same place of work and occupational level for the average black worker	Percent White in the job category	Percent black in the same place of work and occupational level for the average white worker	Percent Black in the job category	Segregation Index
All Jobs	67.8	83.7	8.7	10.7	19
Officials & Managers	81.6	94.2	2.7	3.1	15
Professionals	78.9	92.1	2.5	3.0	14
Technical	70.7	88.3	5.2	6.5	20
Sales Workers	72.0	91.0	4.4	5.6	21
Office & Clerical	68.9	85.6	7.8	9.7	20
Craft	74.8	88.9	6.0	7.1	16
Operative	60.9	79.1	11.0	14.3	23
Laborers	41.5	69.3	12.6	21.0	40
Service Workers	42.5	68.5	14.0	22.5	38

Source: Equal Employment Opportunities Commission 1975 Survey of Private Employers, 1/20 sample.

Table 5

1975 Percentage Distribution of Blacks and Whites in Places of Work of Different Racial Compositions, by Occupational Level

Occupational Level	Percent of Black Workers in Places where Racial Composition at the Same Occupational Level is: 0-10% White	0-20% White	0-49% White	50-99% White	Percent of White Workers in Places where Racial Composition at the Same Occupational Level is: 0-10% Black	0-20% Black	0-49% Black	50-99% Black
All Jobs	0.9	3.1	13.9	86.0	50.0	80.5	97.7	2.2
Officials & Managers	1.9	2.9	7.0	92.9	82.9	96.3	99.8	0.1
Professionals	2.5	4.4	10.2	89.7	74.9	94.9	99.5	0.4
Technical	1.6	3.8	8.7	91.2	66.3	88.9	99.2	0.7
Sales Workers	4.6	6.4	12.4	87.5	78.4	93.0	98.9	1.0
Office & Clerical	0.4	4.2	9.6	90.3	55.8	81.1	98.6	1.3
Crafts	1.2	2.6	9.3	90.6	63.0	90.4	99.1	0.8
Operatives	3.8	5.4	22.5	77.4	42.7	67.4	96.8	3.1
Laborers	11.9	21.1	50.5	49.4	50.0	67.0	90.0	9.9
Service Workers	7.4	12.5	49.6	50.3	41.3	59.5	87.9	12.0

Source: Equal Employment Opportunities Commission 1975 Survey of Private Employers, 1/20 sample.

FOOTNOTES

1. See, e.g., Levin, Education, Life Chances and the Courts: The Role of Social Science Evidence, 39 LAW & CONTEMP. PROB. no. 2 at 217 (1975).

2. In 1973, the black-white school enrollment differences were small before the age of 16, but large for the ages of the last two years of high school. In 1973, 96.9 percent of 14- and 15-year old black females were enrolled in school, compared to 97.2 percent of white females of the same ages; and the comparable figures for males were 96.9 percent of blacks and 98.1 percent of whites. But also in 1973, 24.9 percent of black males and 29 percent of black females 18 and 19 years old were not in school and were not high school graduates, while the comparable figures for male and female white students are 13.7 and 14.2 percent. See U.S. DEP'T. OF COMMERCE, CURRENT POPULATION REPORTS: SPECIAL STUDIES (Bureau of Census Series P-23, No. 54, 1975, at 92), and M.A Golladay, The Condition of Education 1977 (1977) at 196.

3. See, e.g., C. Jencks, et. al., Effects of Family Background, Test Scores, Personality Traits and Schooling on Economic Success, Final Report to U.S. Dept. of Labor, Manpower Administration, April, 1977; at Chapter 8.

4. The social mobility model that has been the major influence in this work was developed in P.M Blau & O.D. Duncan, The American Occupation Structure (1967). Recent research that has studied changes in black and white social mobility processes include Hauser & Featherman, Equality of Schooling: Trends and Prospects, 49 SOC. OF EDUC. 99 (1976), R.M. Hauser & D.L. Featherman, The Process of Stratification: Trends

and Analyses (1977), Featherman & Hauser, Changes in the Socioeconomic Stratification of the Races, 82 AM. J. SOCIOLOGY 621 (1976), and Hogan and Featherman, Racial Stratification and Socioeconomic Change in the American North and South, 83 AM. J. SOCIOLOGY 100 (1977).

5. The Census Bureau recently reported that blacks comprised 10.7 percent of all college students in 1976, and were 11.7 percent of the college-aged civilian population 16 to 34 years old, See U.S. Bureau of the Census, Current Population Reports, Series P-20, No. 309 (1977) at 2. Several studies have shown the greater college enrollment rates of black high school graduates compared to whites of similar social class or test score levels, including recent analyses of the Youth in Transition study reported in Portes & Wilson, Black-White Differences in Educational Attainment, 41 AM. SOCIOLOGICAL REV 414 (1976), and of the National Longitudinal Study of the High School Class of 1972 reported in W.B. Fetters, National Longitudinal Study of the High School Class of 1972: Comparative Profiles One and One-half Years After Graduation (1975), and M.A. Golladay, The Condition of Education, 1977 (1977) at 200, and Thomas, Alexander and Eckland, How Important are Race, Sex, Social Class and Academic Credentials for College Access? Johns Hopkins University Center for Social Organization of Schools Report 226 (1977), and Peng, Bailey & Ekland, Access to Higher Education: Results from the National Longitudinal Study of the High School Class of 1972, 11 EDUCATIONAL RESEARCHER, No. 11 (1977) at 3.

6. A major recent work to estimate college access, distribution and persistence rates of blacks and whites is Institute for the Study of Educational Policy at Howard University, Equal Educational Opportunity in U.S. Higher

Education: An Assessment (1976). These estimates had been hampered by the absence of basic national data on the racial distribution of undergraduate conferred degrees and by the absence of longitudinal data on race of college students through the completion of the senior year. These deficiencies have been addressed for future research by the sample survey on college degrees conducted by the American Council on Education, See, F.J. Atelsek and I.L. Gomberg, Bachelors Degrees Awarded to Minority Students 1973-74; HIGHER EDUCATION PANEL REPORTS NO. 24 (1977); and by the follow-up surveys of the National Longitudinal Study of the High School Class of 1972, conducted by the U.S. Dept. of Health, Educ. and Welfare, National Center for Education Statistics.

7. See M.A. Golladay, Ibid, at 229.
8. See A. Kolstad, Attrition From College: The Class of 1972 Two and One Half Years After High School Graduation (U.S. DEPT. OF HEALTH, EDUC. & WELFARE, National Center for Education Statistics, Report 77-266, 1977).
9. Institute for Study of Educational Policy at Howard University, supra note 6, at 19.
10. N.L. Karweit, Patterns of Educational Activities: Discontinuities and Sequences, Johns Hopkins University Center for Social Organization of Schools, Report No. 222, 1977.
11. Unpublished tabulations performed at Johns Hopkins University.
12. See Astin, Equal Access to Postsecondary Education: Myth or Reality? 19 UCLA EDUCATOR, No. 3, 8 (1977).
13. Institute for the Study of Educational Policy at Howard University, supra note 6, at 61.

14. See National Public Radio, Transcript of October 7, 1974 broadcast of "Options on Education" for a sampling of opinions of desegregation of higher education and the role of black colleges.

15. The calculation formula is:

$$\text{Segregation Index} = \frac{\left(\begin{array}{c}\text{Percent white}\\ \text{students in}\\ \text{the region}\end{array}\right) - \left(\begin{array}{c}\text{Percent white}\\ \text{in the school}\\ \text{attended by the}\\ \text{average minority}\\ \text{student in}\\ \text{the region}\end{array}\right)}{\left(\begin{array}{c}\text{Percent white}\\ \text{students in}\\ \text{the region}\end{array}\right)} = \frac{\left(\begin{array}{c}\text{Percent}\\ \text{minority}\\ \text{students in}\\ \text{the region}\end{array}\right) - \left(\begin{array}{c}\text{Percent minority}\\ \text{in the school}\\ \text{attended by the}\\ \text{average white}\\ \text{student in}\\ \text{the region}\end{array}\right)}{\left(\begin{array}{c}\text{Percent minor-}\\ \text{ity students in}\\ \text{the region}\end{array}\right)}$$

For further description of this index, see J.S. Coleman, S.D. Kelly & J.A. Moore, Trends in School Desegregation, 1968-73 (1975) at 7. It can be shown that the index selected for use in this paper does not have the bias problems that have been described for other familiar indices of segregation. See, e.g., Cortese, Falk & Cohen, Further Considerations on the Methodological Analyses of Segregation Indices 41 AMER. SOCIOLOGICAL REV 630 (1976).

16. Retabulations of the regional segregation indices for elementary-secondary schools reported in J.S. Coleman, Kelly & Moore supra note 15 at 28, and of the distributional statistics reported in M.A. Golladay, The Conditions of Education, 1976 (1976) at 67.

17. These analyses are in progress under the direction of Dr. Gail E. Thomas at Johns Hopkins University.

18. Crain, School Integration and Occupational Achievement of Negroes, 75 AMER. J. SOCIOLOGY 593 (1970).

19. Armor, The Evidence on Busing 28 THE PUBLIC INTEREST (1972) 105.

20. Pettigrew, Useem, Normand & Smith, Busing: A Review of "The Evidence," 30 THE PUBLIC INTEREST (1973) 88.

21. Armor, supra note 19, at 106.

22. D.E. Kapel, Effects of Negro Density on Student Variables and the Post-High School Adjustment of Male Negroes (1968); and D.E. Kapel, Environmental Factors, Student Variables, Post-High School Employment Adjustment, and Post-High School Education of Male Negroes from the Project TALENT Sample (Paper presented at annual meeting of the American Educational Research Association, February, 1969).

23. Portes & Wilson, Black-White Differences in Educational Attainment, 41 AMER. SOCIOLOGICAL REV. 75 (1976).

24. R.L. Crain & R Mahard, High School Racial Composition, Achievement and College Attendance (unpublished manuscript).

25. See, e.g., D.G. Taylor & A.L. Stinchcombe, The Boston Desegregation Controversy, (unpublished manuscript).

26. See, e.g., Farley, Trends in Racial Inequalities: Have the Gains of the 1960's Disappeared in the 1970's?, 42 AMER. SOCIOLOGICAL REV. (1977) 189.

27. L.A. Gottfredson, A Multiple-Labor Market Model of Occupational Achievement, Johns Hopkins Center for Social Organization of Schools, Report No. 225 (1977).

28. Id.

29. Id.

30. Responses to the 1975 EEOC survey covered 48 percent of the private non-agricultural work force, with more complete coverage in the industries

whose establishments tend to be large. For example, estimated 80 percent coverage in durable goods manufacturing and 71 percent in non-durable manufacturing, but only 31 percent in retail trade and 29 percent in wholesale trade. The racial composition of the 1975 EEOC sample is very similar to the U.S. Bureau of Labor Statistics estimation of the population with work experience in 1975, as reported by H.J. Becker, Racial Segregation among Places of Employment (unpublished manuscript).

31. H.J. Becker, supra note 30 (unpublished manuscript).

32. Analyses of these data are being pursued by Dr. Henry J. Becker at Johns Hopkins University.

33. Crain, supra at note 18.

34. U.S. Commission on Civil Rights, Racial Isolation in the Public Schools (1967) at Appendix C5.

35. R.L. Crain and C.S. Weisman, Discrimination, Personality and Achievement (1972).

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